

What is claimed is:

1. An exhaust emission control apparatus for an internal combustion engine, comprising:

exhaust flow suppressing means provided in an exhaust system of the internal combustion engine mounted in a vehicle, for suppressing exhaust flow when the internal combustion engine is started;

operative state detecting means for detecting whether a period of time elapsed after the vehicle starts accelerating from standstill is equal to or shorter than a predetermined period of time according to an operative state of the internal combustion engine; and

exhaust flow control limiting means causes said exhaust flow control means to stop or reduce the suppression of exhaust flow when said operative state detecting means detects that the period of time elapsed after the vehicle starts accelerating from standstill is equal to or shorter than the predetermined period of time.

2. An exhaust emission control apparatus for an internal combustion engine according to claim 1, wherein:

said operative state detecting means comprises:

load detecting means for detecting a load of the internal combustion engine; and

engine speed detecting means for detecting an engine speed of the internal combustion engine; and

wherein said operative state detecting means detects that the period of time elapsed after the vehicle starts accelerating from

standstill is equal to or shorter than the predetermined period of time when the load detected by said load detecting means is equal to or greater than a predetermined load and the engine speed detected by said engine speed detecting means is equal to or lower than a predetermined engine speed.

3. An exhaust emission control apparatus for an internal combustion engine according to claim 1, wherein:

said operative state detecting means comprises:

load detecting means for detecting a load of the internal combustion engine; and

vehicle speed detecting means for detecting a vehicle speed; and

wherein said operative state detecting means detects the period of time elapsed after the vehicle starts accelerating from standstill is equal to or shorter than the predetermined period of time when the load detected by said load detecting means is equal to or greater than a predetermined load and the vehicle speed detected by said vehicle speed detecting means is equal to or lower than a predetermined vehicle speed.

4. An exhaust emission control apparatus for an internal combustion engine according to claim 1, wherein:

said operative state detecting means comprises cold state detecting means for detecting that the internal combustion engine is in cold state; and

said exhaust flow control means suppresses the exhaust flow in the exhaust system when the internal combustion engine is started when said cold state detecting means detects that the internal combustion engine is in cold state within the predetermined temperature range.

5. An exhaust emission control apparatus for an internal combustion engine according to claim 4, wherein:

said exhaust flow control limiting means causes said exhaust flow control means to stop or reduce the suppression of the exhaust flow when said cold state detecting means detects that the internal combustion engine is in cold state and is equal to or lower than a predetermined temperature.

6. An exhaust emission control apparatus for an internal combustion engine according to claim 4, wherein:

said exhaust flow control limiting means causes said exhaust flow control means to stop or reduce the suppression of the exhaust flow when said operative state detecting means detects that the period of time elapsed after the vehicle starts accelerating from standstill is equal to or shorter than the predetermined period of time and said cold state detecting means detects that the internal combustion engine is in cold state and is equal to or lower than a predetermined temperature.

7. An exhaust emission control apparatus for an internal combustion engine according to claim 1, wherein:

- 31 -

said exhaust flow control limiting means comprises ignition timing control means for controlling ignition timing of the internal combustion engine; and

said exhaust flow control limiting means causes said exhaust flow control means to stop or reduce the suppression of the exhaust flow and causes said ignition timing control means to retard the ignition timing when said operative state detecting means detects that the period of time elapsed after the vehicle starts of accelerating from standstill is equal to or shorter than the predetermined period of time.

8. An exhaust emission control apparatus for an internal combustion engine according to claim 1, wherein:

said exhaust flow control limiting means comprises air-fuel ratio control means for controlling an air-fuel ratio of the internal combustion engine; and

said exhaust flow control limiting means causes said exhaust flow control means to stop or reduce the suppression of the exhaust flow and causes said air-fuel ratio control means to control the air-fuel ratio to a rich air-fuel ratio when said operative state detecting means detects that the period of time elapsed after the vehicle starts accelerating from standstill is equal to or shorter than the predetermined period of time.

9. An exhaust emission control apparatus for an internal combustion engine according to claim 1, wherein:

said exhaust flow control limiting means causes said exhaust flow control means to suppress the exhaust flow when said operative state detecting means detects that the period of time elapsed after the vehicle starts accelerating from standstill is longer than the predetermined period of time.

10. An exhaust emission control apparatus for an internal combustion engine according to claim 1, wherein:

said operative state detecting means comprises idle time detecting means for detecting whether the exhaust flow is suppressed by said exhaust flow control means and an idle state of the internal combustion engine has continued for a predetermined period of time; and

said exhaust flow control limiting means causes said exhaust flow control means to stop or reduce the suppression of the exhaust flow when said operative state detecting means detects that the period of time elapsed after the vehicle starts accelerating from standstill is equal to or shorter than the predetermined period of time and said idle time detecting means detects that the exhaust flow is suppressed by said exhaust flow control means and the idle state of the internal combustion engine has continued for the predetermined period of time.

11. An exhaust emission control apparatus for an internal combustion engine according to claim 10, wherein:

said operative state detecting means comprises cold state detecting means for detecting that the internal combustion engine is in cold state within a predetermined temperature range; and

said exhaust flow control means suppresses the exhaust flow in the exhaust system when the internal combustion engine is started when said cold state detecting means detects that the internal combustion engine is in cold state within the predetermined temperature range.

12. An exhaust emission control apparatus for an internal combustion engine according to claim 11, wherein:

said exhaust flow control limiting means causes said exhaust flow control means to stop or reduce the suppression of the exhaust flow when said cold state detecting means detects that the internal combustion engine is in cold state within the predetermined temperature range.

13. An exhaust emission control apparatus for an internal combustion engine according to claim 11, wherein:

said exhaust flow control limiting means causes said exhaust flow control means to stop or reduce the suppression of the exhaust flow when said operative state detecting means detects that the period of time elapsed after the vehicle starts accelerating from standstill is equal to or shorter than the predetermined period of time, said idle time detecting means detects that the exhaust flow is suppressed by said exhaust flow control means and the idle state of the internal combustion engine has continued for the

predetermined period of time, and said cold state detecting means detects that the internal combustion engine is in cold state within the predetermined temperature range.

14. An exhaust emission control apparatus for an internal combustion engine according to claim 10, wherein:

said exhaust flow control limiting means comprises ignition timing control means for controlling ignition timing of the internal combustion engine; and

said exhaust flow control limiting means causes said exhaust flow control means to stop or reduce the suppression of the exhaust flow and causes said ignition timing control means to retard the ignition timing when said operative state detecting means detects that the period of time elapsed after the vehicle starts accelerating from standstill is equal to or shorter than the predetermined period of time and said idle time detecting means detects that the exhaust flow is suppressed by said exhaust flow control means and the idle state of the internal combustion engine has continued for the predetermined period of time.

15. An exhaust emission control apparatus for an internal combustion engine according to claim 10, wherein:

said exhaust flow control limiting means comprises air-fuel ratio control means for controlling an air-fuel ratio of the internal combustion engine; and

said exhaust flow control limiting means causes said exhaust flow control means to stop or reduce the suppression of the exhaust

flow and causes said air-fuel ratio control means to control the air-fuel ratio to a rich air-fuel ratio when said operative state detecting means detects that the period of time elapsed after the start of accelerating from standstill is equal to or shorter than the predetermined period of time and said idle time detecting means detects that the exhaust flow is suppressed by said exhaust flow control means and the idle state of the internal combustion engine has continued for the predetermined period of time.

16. An exhaust emission control apparatus for an internal combustion engine according to claim 10, wherein:

said exhaust flow control limiting means causes said exhaust flow control means to suppress the exhaust flow when said operative state detecting means detects that the period of time elapsed after the vehicle starts accelerating from standstill is longer than the predetermined period of time.

17. An exhaust emission control apparatus for an internal combustion engine, comprising:

exhaust flow suppressing means provided in an exhaust system of the internal combustion engine mounted in a vehicle, for suppressing exhaust flow when the internal combustion engine is started;

operative state detecting means for detecting whether a period of time elapsed after the vehicle starts accelerating from standstill is equal to or shorter than a predetermined period of time according to an operative state of the internal combustion engine; and



exhaust flow control limiting means causes said exhaust flow control means to stop or reduce the suppression of exhaust flow when said operative state detecting means detects that the period of time elapsed after the vehicle starts accelerating from standstill is equal to or shorter than the predetermined period of time ;

wherein said operative state detecting means comprises cold state detecting means for detecting that the internal combustion engine is in cold state; and

said exhaust flow control means suppresses the exhaust flow in the exhaust system when the internal combustion engine is started when said cold state detecting means detects that the internal combustion engine is in cold state within the predetermined temperature range.

18. An exhaust emission control apparatus for an internal combustion engine, comprising:

exhaust flow suppressing means provided in an exhaust system of the internal combustion engine mounted in a vehicle, for suppressing exhaust flow when the internal combustion engine is started;

operative state detecting means for detecting whether a period of time elapsed after the vehicle starts accelerating from standstill is equal to or shorter than a predetermined period of time according to an operative state of the internal combustion engine; and

exhaust flow control limiting means causes said exhaust flow control means to stop or reduce the suppression of exhaust flow

when said operative state detecting means detects that the period of time elapsed after the vehicle starts accelerating from standstill is equal to or shorter than the predetermined period of time ;

wherein said operative state detecting means comprises idle time detecting means for detecting whether the exhaust flow is suppressed by said exhaust flow control means and an idle state of the internal combustion engine has continued for a predetermined period of time; and

said exhaust flow control limiting means causes said exhaust flow control means to stop or reduce the suppression of the exhaust flow when said operative state detecting means detects that the period of time elapsed after the vehicle starts accelerating from standstill is equal to or shorter than the predetermined period of time and said idle time detecting means detects that the exhaust flow is suppressed by said exhaust flow control means and the idle state of the internal combustion engine has continued for the predetermined period of time.